

**REMARKS**

Claims 1-22 stand in this application. Claims 1 and 19 have been amended.

Reconsideration and allowance of the standing claims are respectfully requested.

Claims 1-5, 8-11 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 6,591,310 B1 (Johnson) in view of USPN 6,545,981 B1 (Garcia). Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claims 1-5 define over Johnson in view of Garcia since both references, whether taken alone or in combination, fail to disclose all the elements of claims 1-5. Claims 1-5 each recite the feature of a “push-push messaging layer.” Neither Johnson nor Garcia describes a “push-push messaging layer.” For example, Johnson describes a reply descriptor to decrease the size and number of response messages sent in response to a request message. As stated in Johnson:

It is the primary object of this invention to provide a method of responding over an I/O messaging passing medium to a request message and to provide an associated reply descriptor for transmission over an I/O message passing medium in response to a corresponding request message.

Johnson, Col. 5: Lines 12-16 [Emphasis Added]. Garcia describes a technique for responding to an error condition “if a response to any request packet is not received at the requesting node.” Garcia, Col. 1: Lines 54-67 [Emphasis Added]. Claims 1-5 do not respond to a request message, but rather are designed to obviate the need for request messages, thereby decreasing message latency. Claim 1 has been amended to further recite that “the host module driver and the I/O unit module driver to initiate data transfers

to each other without receiving a request to transfer” in an attempt to further emphasize this distinction.

In responding to Applicant’s previous arguments, the Office Action states that Johnson discloses a messaging layer for sending and receiving messaging between a host computer and I/O buffers, but is deficit with respect to using message RDMA writes. The Office Action further states that Garcia discloses the RDMA writes. Therefore the combination of Johnson and Garcia disclose the claimed subject matter. Office Action, Page 12. Johnson and Garcia, however, both provide examples of “pull-pull” model, where entities request data from other entities and provide a known location in which to place the received data. By way of contrast, a “push-push messaging layer” pushes data from an originating entity to a target entity. Since an entity does not have to request data, latency may be decreased. Specification, Page 18. Consequently, even if the teachings of Johnson and Garcia were combined, the resulting combination would not describe all the elements of claims 1-5, particularly as currently amended.

Claims 8-11 and 13 also define over Johnson in view of Garcia since both references, whether taken alone or in combination, fail to disclose all the elements of claims 8-11 and 13. Claims 8-11 and 13 recite “a messaging layer to communicate buffer management messages over the switched fabric using the first work queue pair, and to communicate RDMA write messages over the switched fabric using the second VI work queue pair.” Neither Johnson nor Garcia discloses this feature. As correctly noted in the Office Action, Johnson is silent with respect to having different channels for communicating control and configuration messages, and data. Office Action, Page 8. Garcia is also silent with respect to this feature. Consequently, even if the teachings of

Johnson and Garcia were combined, the resulting combination would not describe “a messaging layer to communicate buffer management messages over the switched fabric using the first work queue pair, and to communicate RDMA write messages over the switched fabric using the second VI work queue pair” as recited in claims 8-11 and 13.

Moreover, the Office Action has failed to meet its burden of establishing a *prima facie* case of obviousness. According to the MPEP, three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 706.02(j).

The Office Action has failed to meet its burden of establishing a *prima facie* case of obviousness since Johnson and Garcia both fail to provide a suggestion or motivation to combine their teachings. In fact, Johnson and Garcia teach away from such a combination since Johnson and Garcia both provide examples of “pull-pull” model and use of a single channel for all messages, which are in direct opposition to the claimed subject matter.

At least for the reasons stated above, Applicant submits that claims 1-5, 8-11 and 13 represent patentable subject matter over Johnson in view of Garcia. Accordingly, removal of this rejection is respectfully requested.

Claims 19-22 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Garcia and further in view of USPN 4,503,499 (Mason). Applicants respectfully request reconsideration and removal of this rejection.

Claims 19-22 define over Johnson in view of Garcia and further in view of Mason. Claim 19, as amended, recites the feature of “with said RDMA write to comprise a data transfer initiated without receiving a request to transfer.” As discussed previously with claims 1-5, Johnson and Garcia fail to disclose this feature. Mason also fails to disclose this feature as well. Accordingly, removal of this rejection is respectfully requested.

Claims 6, 7, 12, and 14-18 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson in view of Garcia and USPN 6,370,605 B1 (Chong). Applicant respectfully requests reconsideration and withdrawal of this rejection.

Claims 6 and 7 define over Johnson in view of Garcia and further in view of Chong since all three references, whether taken alone or in combination, fail to disclose all the elements of claims 6 and 7. Claims 6 and 7 depend from independent claim 1. Therefore, Johnson and Garcia fail to disclose all the elements of claims 6 and 7 for at least the reasons given for claim 1. Further, Chong fails to disclose “the host module driver and the I/O unit module driver to initiate data transfers to each other without receiving a request to transfer” as recited in claim 1. Consequently, Applicant submits that Johnson, Garcia and Chong, whether taken alone or in combination, fail to disclose all the elements of claims 6 and 7 for at least the same reasons given for independent claim 1.

Claim 12 also defines over Johnson in view of Garcia and further in view of Chong since all three references, whether taken alone or in combination, fail to disclose all the elements of claim 12. Claim 12 depends from independent claim 8. Therefore, Johnson and Garcia fail to disclose all the elements of claim 12 for at least the reasons given for claim 8. Further, Chong fails to disclose a first and second virtual interface work queue pair as recited in claim 8. Consequently, Applicant submits that Johnson, Garcia and Chong, whether taken alone or in combination, fail to disclose all the elements of claim 12 for at least the same reasons given for independent claim 8.

Claims 14-18 define over Johnson in view of Garcia since both references, whether taken alone or in combination, fail to disclose all the elements of claims 14-18. Claims 14-18 each recite the different channel feature as discussed with reference to independent claim 8. Therefore, Johnson and Garcia fail to disclose all the elements of claim 14-18 for at least the reasons given for claim 8.

Chong also fails to disclose the missing features of claims 14-18. Claims 14-18 recite the feature of communicating "control and buffer management messages over a first channel." According to the Office Action, Chong communicates control information between host computers and storage devices, the control information including command and status signals that could be used for system configuration. Office Action, Page 12. The control information described in Chong, however, does not specifically include "buffer management messages" as recited in claims 14-18. Rather, Chong is directed to a RAID system, where the control information is to control discrete physical devices, such as disk drives and tape drives. Chong, Col. 7: Lines 40-42. Therefore, Chong would have no need to communicate "buffer management messages" as recited in claims 14-18.

At least for the reasons stated above, Applicant submits that claims 6-7, 12, and 14-18 represent patentable subject matter over Johnson in view of Garcia and further in view of Chong. Accordingly, removal of this rejection is respectfully requested.

Applicant submits that claims 1-22 recite novel features not shown by the cited documents. Further, Applicant submits that the above-recited novel features provide new and unexpected results not recognized by the cited documents. Accordingly, Applicant submits that claims 1-22 are not anticipated nor rendered obvious in view of the cited documents.

It is believed that claims 1-22 are in allowable form. Accordingly, a timely Notice of Allowance to this effect is earnestly solicited.

The Examiner is invited to contact the undersigned at 724-933-3387 to discuss any matter concerning this application.

Appl. No. 09/588,006

Amendment Dated April 14, 2004

Reply to Office Action of January 15, 2004 (Paper No. 6)

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 to Deposit Account No. 02-2666.

Respectfully submitted,

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Under 37 CFR 1.34(a)

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4/14/04  
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